

Taxonomic Synopsis of the Slender Racer Snake Genus *Platyceps* Blyth, 1860 (Reptilia: Colubridae), from Iran

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INTRODUCTION & AIM

The colubrid snakes (Colubridae) with over 2150 species in over 300 nonvenomous and venomous genera, include about half of all living snake species (4,187 species) is the largest snake family (Uetz et al., 2025); Colubridae family adapted to different types of habitats aquatic (rivers, lakes), and terrestrial (grasslands, semi-arboreal, arboreal, desert, and mountainous forests); they are distributed on every continent except Antarctica (Vitt et al., 2013). Based on morphological characteristics, and molecular analysis (Zaher et al. 2019) the Colubridae family consists of eight subfamilies Ahaetuliinae (83 species), Calamariinae (98 species), Colubrinae (815 species), Dipsadinae (850 species), Grayiinae (5 species), Natricinae (277 species), Pseudoxenodontinae (10 species), and Sibynophiinae (14 species); of these, two subfamilies Colubrinae (40 species) and Natricinae (two species), are distributed in Iran (Uetz et al., 2025).

According to a molecular phylogenetic study the genus slender racer snake *Platyceps* Blyth, 1860 is nested within Colubrinae and is the sister taxon of the *Spalerosophis* Jan, 1865 (Pyron et al., 2013). The genus *Platyceps* with about 33 valid species, is distributed in northern and northeastern Africa, southern and southeastern Europe, Central Asia, southwestern Asia, to India (Uetz et al., 2025). The genus *Platyceps* is distinguished by such characteristics as: high speed in movement, round pupils, loreal scales present, the uppermost scale in front of the eye is connected to the frontal scale, seven or more supralabial scales, 19 dorsal scales smooth or slightly serrated. Five species of this genus occur on Iranian Plateau as follows: *Platyceps karelini* (Brandt, 1838), *P. mintonorum* (Mertens 1969), *P. najadum* (Eichwald, 1831), *P. rhodorachis* (Jan, 1863), and *P. schmidtleri* (Schätti & McCarthy, 2001). Based on morphological and molecular characteristics, the taxonomic status of the subspecies *P. k. mintonorum* and *P. n. schmidtleri* was changed to a full species.

Systematic Account

Platyceps karelini (Brandt, 1838)

The spotted desert racer described by Brandt, 1838 as *Tyria karelini* from the eastern coast of the Caspian Sea; then taxonomic status it changed by Smith (1943) to genus *Coluber* Linnaeus, 1758 and Nagy et al. (2004) to genus *Platyceps* Blyth, 1860; According to Schätti et al. (2012), *P. karelini* has two subspecies: *P. k. chesneii* (Martin, 1838) in Fars, Esfahan, Bushehr, Lorestan, Khuzestan and Chaharmahal and Bakhtiari Provinces, and *P. k. karelini* (Brandt, 1838) in Sistan and Baluchestan, South Khorasan, Khorasan Razavi, North Khorasan, Golestan, Mazandaran, Semnan, Tehran, Qom, Esfahan and Yazd Provinces (Safaei-Mahroo et al., 2015).

Platyceps mintonorum (Mertens 1969)

Khan (2006) considers *P. mintonorum* as a different phenotype of *P. karelini*, whereas Schätti et al. (2014) reported a hybrid specimen from southwestern Afghanistan (Nimroz region) that was similar to *P. karelini* in scalation but in of color pattern similar to *P. mintonorum*. *Platyceps mintonorum* differs from *P. karelini* in the number of ventral and subcaudal scales. so, its rank was reverted to subspecies. It has been observed in the dry desert plains around Zabol and Zahedan (Sistan and Baluchistan Province) (Fig. 1).

Platyceps najadum (Eichwald, 1831)

The slender whip snake was first described by Eichwald in 1831 as *Tyria najadom*. It was then transferred to the genus *Coluber* by Schmidt in 1939 and finally to the genus *Platyceps*. This species has several pairs of round or oval spots on the side of its neck. *Platyceps najadum* has four subspecies: *P. n. albitemporalis* (Darevsky & Orlov, 1994), *P. n. dahlui* (Fitzinger, 1826), *P. n. kalymnensis* (Schneider, 1979) and *P. n. najadum* (Eichwald, 1831). The subspecies *P. n. najadum* is distributed from northwest to northeast and west of Iran (Fig. 1).

Platyceps rhodorachis (Jan, 1863)

The Braid Snake or cliff Racer snake was first described by Jan in 1863 as *Zamenis rhodorachis*; dorsally an orange or brownish-reddish stripe extending from nape to tip of tail; this species is distributed almost throughout Iran except for the northern slopes of the Alborz and the mountains of Azerbaijan. It was then changed to the genus *Coluber* by Parker in 1931 and finally to the genus *Platyceps*.

Platyceps schmidtleri (Schätti & McCarthy, 2001)

Schmittler's whip snake, *Coluber schmidtleri*, was introduced by Schätti and McCarthy in 2001; this species is native of Iran and is distributed in the central and southern Zagros Mountains (Fig. 1). Its main difference from other *Platyceps* species is the number of dorsal scales (15 or 17 versus 19).

Biogeographically, Iran is located in the southwestern Palearctic region and adjacent to the Oriental and Afrotropical regions; so far, about 81 snake species belonging to 35 genera and 7 families have been identified in Iran; 10 species, including *Platyceps schmidtleri*, are endemic. The genus *Platyceps* (Colubridae family) with about 33 valid species, is distributed in northern and northeastern Africa, southern and southeastern Europe, Central Asia, southwestern Asia, to India (Uetz et al., 2025). Five species of this genus occur on Iranian Plateau as follows: *Platyceps karelini* (Brandt, 1838), *P. mintonorum* (Mertens 1969), *P. najadum* (Eichwald, 1831), *P. rhodorachis* (Jan, 1863), and *P. schmidtleri* (Schätti & McCarthy, 2001).

DISCUSSION



Fig. 1. *Platyceps* distribution map in Iran.



Fig. 2. A: *Platyceps karelini* (Mozaffari et al., 2016); B: *P. najadum*; C: *P. rhodorachis* in its habitat (Mozaffari et al., 2016), C.1: *P. rhodorachis* in laboratory; D: Landscape of habitat of *P. najadum* in Kermanshah Province.

CONCLUSION

Among the five recognized *Platyceps* species in Iran, *P. rhodorachis* has the most and *P. mintonorum* the least distributed.

FUTURE WORK / REFERENCES

Mozaffari O., Kamali K.; Fahimi H. (2016). The Atlas of Reptiles of Iran. Iran Department of the Environment, Tehran. 361 pp.
Schätti, B., Kucharzewski, C., & Tillack, F. (2014). *Platyceps rhodorachis* (Jan, 1863) – a study of the racer genus *Platyceps* Blyth, 1860 east of the Tigris (Reptilia: Squamata: Colubridae). *Vertebrate Zoology*, 64(3), 297–405.
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